



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,899	02/09/2004	Craig Smith	14374.105	8764

22913 7590 06/28/2005

WORKMAN NYDEGGER  
(F/K/A WORKMAN NYDEGGER & SEELEY)  
60 EAST SOUTH TEMPLE  
1000 EAGLE GATE TOWER  
SALT LAKE CITY, UT 84111

EXAMINER

HO, ALLEN C

ART UNIT PAPER NUMBER

2882

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/774,899

Applicant(s)

SMITH ET AL.

Examiner

Allen C. Ho

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-29 is/are allowed.
- 6) ☒ Claim(s) 1-15, 30, 31, 33, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 32 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a clamp portion mechanically attached to a bracket portion through an aperture defined in the outer housing must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

2. The disclosure is objected to because of the following informalities:

- (1) Paragraph [045], line 2, "70" should be replaced by --80--.
- (2) Paragraph [046], lines 2 and 6, "66" should be replaced by --64--.
- (3) Paragraph [057], line 10, "76" should be replaced by --74--.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites a second mounting portion being mechanically attached to the first mounting portion through an aperture defined in the outer housing. Claim 8 recites a clamp portion mechanically attached to the bracket portion through an aperture defined in the outer housing. However, the specification fails to disclose such an arrangement. As shown in Figs. 2B and 6, the clamp portion is mechanically attached to bracket portion without going through an aperture defined in the outer housing.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

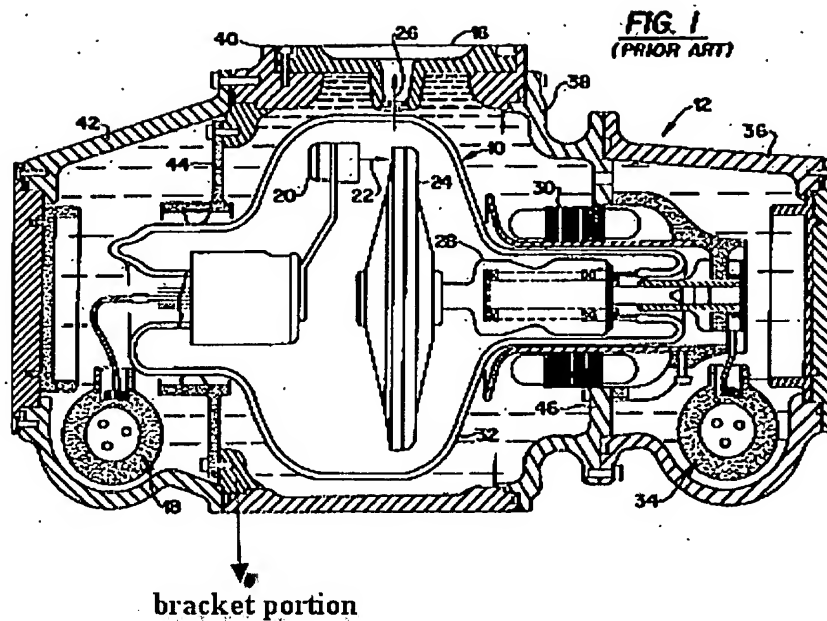
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kantor *et al.* (U. S. Patent No. 6,644,853 B1).

With regard to claim 1, Kantor *et al.* disclosed an x-ray tube comprising: an evacuated enclosure (32) containing an electron source (36) and an anode (34) positioned to receive electrons produced by the electron source; an outer housing (16) containing the evacuated enclosure; and a mounting portion comprising: a first mounting portion (20) that mechanically attaches to an outer surface of the outer housing, and a second mounting portion (54) that mechanically attaches to a portion of the evacuated enclosure, the second mounting portion also being mechanically attached to the first mounting portion.

With regard to claim 7, Kantor *et al.* disclosed an x-ray tube as defined in claim 1, wherein the mounting assembly is further configured to mechanically attach the x-ray tube to a portion of an x-ray generating device (10).

7. Claims 8, 12-14, 30, 31, 33, 35, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Jedlitschka *et al.* (U. S. Patent No. 5,303,283).



With regard to claim 8, Jedlitschka *et al.* disclosed a mounting assembly for joining an evacuated enclosure (32) containing an electron source (20) and an anode (24) to an outer housing (12) that contains the evacuated enclosure, the mounting assembly comprising: a bracket portion that mechanically attaches to a portion of the outer housing; and a clamp portion (44) that frictionally engages a portion of the evacuated enclosure proximate an x-ray transmissive window (16) that is located on a surface of the evacuated enclosure, wherein the clamp portion is also mechanically attached to the bracket portion.

With regard to claim 12, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 8, wherein the bracket portion has at least one surface that is shaped to physically engage a corresponding portion of the outer housing.

With regard to claim 13, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 12, wherein at least one surface of the bracket portion is a concave surface.

With regard to claim 14, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 8, wherein the anode of the x-ray tube is a rotary anode.

With regard to claims 30, 31, and 33, Jedlitschka *et al.* disclosed an x-ray generating device comprising a device body (12); an x-ray tube including: an evacuated enclosure (32) containing an electron source (20) and a rotary anode (24); and a mounting assembly including: a bracket portion that mechanically attaches to a portion of the device body, and a clamp portion (44) that frictionally engages a portion of the evacuated enclosure proximate an x-ray transmissive window (16) that is located on a surface of the evacuated enclosure, wherein the clamp portion is also mechanically attached to the bracket portion such that the mounting assembly supports the evacuated enclosure in a specified position with respect to the body.

With regard to claim 34, Jedlitschka *et al.* disclosed an x-ray generating device as defined in claim 30, wherein the x-ray tube further comprises an outer housing (12) containing the evacuated enclosure, and wherein the bracket portion of the mounting assembly also attaches to a portion of the outer housing.

Claim 35 recites intended use. Accordingly, it is rejected with claim 30.

With regard to claim 36, Jedlitschka *et al.* disclosed a mounting assembly comprising: a bracket portion including an aperture; a clamp portion (44) that attaches to a portion of an x-ray transmissive window assembly of the evacuated enclosure, wherein the clamp portion also attaches to the bracket portion such that an aperture in the clamp portion is aligned with both a portion of the window assembly and the aperture of the bracket assembly. Note: Claim 36 recites a mounting assembly for use in attaching an evacuated enclosure of an x-ray tube to a device. This recitation together with the recitation that a bracket portion that attaches to a

portion of the device have been treated as intended use since the claim does not actually claim a device in the body of the claim. Furthermore, since the x-ray transmissive window assembly is undefined, anything could be construed as being a portion of the window assembly.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kantor *et al.* (U. S. Patent No. 6,644,853 B1) as applied to claim 1 above.

With regard to claim 2, Kantor *et al.* disclosed an x-ray tube as defined in claim 1, wherein the first mounting portion comprises a bracket. However, Kantor *et al.* failed to teach that the bracket is attached to the second mounting portion using a plurality of screws.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to attach the bracket to the second mounting portion using a plurality of screws, since a person would be motivated to mount the bracket to the second mounting portion using any well known attachment means.

With regard to claim 3, Kantor *et al.* disclosed an x-ray tube as defined in claim 2. However, although Kantor *et al.* disclosed that aluminum is a preferred material for the sake of minimizing the weight of the x-ray tube head (column 3, lines 49-51), Kantor *et al.* failed to teach that the bracket is substantially composed of aluminum.



It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a bracket composed of aluminum, since a person would be motivated to use a material that would reduce the weight of the x-ray tube head.

*Allowable Subject Matter*

10. Claims 32 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 16-29 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 16-20, although the prior art discloses a method of joining an evacuated enclosure to a structure comprising the step of attaching a clamp portion of a mounting assembly to a bracket portion of the mounting assembly such that an aperture defined in the clamp portion is aligned with an aperture defined in the bracket portion, it fails to teach or fairly suggest the step of attaching the clamp portion of the mounting assembly to an extended segment of the window assembly of the evacuated enclosure such that a window located in the window assembly is aligned with the apertures of the clamp portion and the bracket portion as claimed.

With regard to claims 21-29, although the prior art discloses an x-ray tube comprising an evacuated enclosure containing an electron source and a rotary anode, a window assembly attached to an aperture formed in the evacuated enclosure comprising an x-ray transmissive window, it fails to teach or fairly suggest a mounting assembly comprising a clamp portion

Art Unit: 2882

including an annular ring that defines an aperture and a bracket portion having a substantially planar first surface, a curved second surface, and a aperture extending between the first and the second surfaces as claimed.

### *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (1) Artig *et al.* (U. S. Patent No. 6,134,299) disclosed an x-ray generator comprising an x-ray transmissive window.
- (2) Eitner *et al.* (U. S. Patent No. 4,893,321) disclosed an x-ray radiator.
- (3) O'Connor (U. S. Patent No. 4,157,476) disclosed a dental x-ray tube head.
- (4) Koller *et al.* (U. S. 4,107,562) disclosed an x-ray beam generator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen C. Ho  
Primary Examiner  
Art Unit 2882

26 June 2005